

CONTENTS

Modern methods for thin film and surface analyses	1
H. W. Werner (Eindhoven, The Netherlands)	
Probing and imaging techniques for surface studies	13
R. Castaing (Orsay, France)	
Metal-gas reactions studied by surface chemiluminescence	23
B. Kasemo, E. Törnqvist and L. Walldén (Göteborg, Sweden)	
Oxygen interaction with clean aluminium and magnesium films investigated by synchrotron-radiation-induced photoemission	31
S. A. Flodström, C. W. B. Martinson (Linköping, Sweden), G. Kalkoffen and C. Kunz (Hamburg, F.R.G.)	
Calculation of the spatial distribution of ionization density in a material due to electron beam irradiation . .	39
H. J. Dudek (Köln, F.R.G.)	
Electron spectroscopy for bulk and surface microscopy and microanalysis	45
J. Cazaux (Reims, France)	
Effect of ion bombardment conditions on the chemical profile through the surface of tinplate	49
J. C. Rivière (Didcot, Gt. Britain)	
Surface segregation during sputtering at elevated temperatures	55
S. Hofmann (Stuttgart, F.R.G.)	
Investigations of slow exchange processes at metal and oxide surfaces and interfaces using secondary ion mass spectrometry	59
H. G. Sockel, D. Hallwig and R. Schachtrner (Erlangen, F.R.G.)	
A new ellipsometric method for measurements on surfaces and surface layers	65
M. Stenberg, T. Sandström and L. Stiblert (Göteborg, Sweden)	
Optical properties of alloys	71
E. F. I. Roberts, K. Mc. Clarke and R. Hunt (London, Gt. Britain)	
Investigation of metallic surfaces through electroreflectance	81
R. Garrigos, R. Kofman and P. Cheyssac (Nice, France)	
Surface phenomena on noble and rare earth metals	85
G. K. Wertheim (Murray Hill, N.J., U.S.A.)	
Adsorption, segregation and reactions of non-metal atoms on iron surfaces	91
H. J. Grabke (Düsseldorf, F.R.G.)	
Sulphur-metal interactions	101
J. Oudar (Paris, France)	
Determination of adsorbate geometries from final state scattering in X-ray photoemission: carbon monoxide and oxygen on (001) Ni	107
L.-G. Petersson, S. Kono, N. F. T. Hall, S. Goldberg, J. T. Lloyd, C. S. Fadley (Honolulu, Hawaii, U.S.A.) and J. B. Pendry (Warrington, Gt. Britain)	
Desorption of potassium from carbon film surfaces	121
J. O. Olsson and L. Holmlid (Göteborg, Sweden)	
Adsorption-induced changes of photoemission spectra and surface electronic structure: (111) Cu/Cs	127
S. Å. Lindgren and L. Walldén (Göteborg, Sweden)	
Surface composition and catalysis by alloys: on the relevance of surface science to catalysis	135
V. Ponec (Leiden, The Netherlands)	
Catalytic reactions on metals studied by work function measurements	141
D. Söderberg, I. Lundström and C. Svensson (Linköping, Sweden)	
The influence of surface segregation of oxygen or nitrogen on the decomposition of hydrocarbons on transition metals	145
G. Hörz, H. Kanbach and H. Vetter (Stuttgart, F.R.G.)	
Measurements of complex formation at an iron surface	155
P. Nilsson, B. Håkansson and N.-G. Vannerberg (Göteborg, Sweden)	

The passive state of stainless steels	161
I. Olefjord (Göteborg, Sweden)	
The effect of chloride ions on passive layers on stainless steels	173
B.-O. Elfström (Göteborg, Sweden)	
Passive and transpassive films on Fe-Cr alloys in acid and neutral solutions	181
K. Sugimoto and S. Matsuda (Sendai, Japan)	
Studies of the influence of sulphur on the passivation of nickel by Auger electron spectroscopy and electron spectroscopy for chemical analysis	191
P. Marcus, J. Oudar (Paris, France) and I. Olefjord (Göteborg, Sweden)	
Highly protective films on stainless steels	199
G. Hultquist and C. Leygraf (Stockholm, Sweden)	
Effects of electron bombardment during Auger electron analysis of corroded metal surfaces	207
G. T. Burstein (Cambridge, Gt. Britain)	
Solute segregation and intergranular fracture in steels: a status report	215
C. J. McMahon, Jr. (Philadelphia, Pa., U.S.A.)	
Temper embrittlement and ternary equilibrium segregation	227
M. Guttmann (Evry, France)	
The intergranular fragility index — an engineering materials parameter	233
C. Lea, M. P. Seah and E. D. Hondros (Teddington, Gt. Britain)	
On the co-segregation of metallic and non-metallic impurities at interfaces	245
I. Jäger (Leoben, Austria)	
The influence of chemical interactions between metallic and metalloid solutes on their segregation in α -Fe	
I: Co-segregation at free surfaces studied by Auger electron spectroscopy	249
Ph. Dumoulin and M. Guttmann (Evry, France)	
Ductility variations in stainless steel casts examined by Auger electron spectroscopy	265
R. K. Wild (Berkeley, Gt. Britain)	
The influence of interfacial structure on the high temperature mechanical behaviour of grain boundaries . . .	273
G. L. Dunlop and J.-O. Nilsson (Göteborg, Sweden)	
Self-diffusion of iron in an α - γ interface compared with diffusion in grain boundaries	281
D. Juvé-Duc, D. Treheux and P. Guiraldenq (Ecilly, France)	
Metallurgical applications of surface analytical techniques	289
V. Leroy (Liège, Belgium)	
Chemical characterization of industrial steel and aluminium sheet surfaces by secondary ion mass spectrometry, glow discharge optical spectroscopy and other surface-sensitive techniques	309
E. Janssen (IJmuiden, The Netherlands)	
Auger depth profiling and analysis of defects in tinplate surfaces	321
J. S. Johannessen, A. P. Grande (Trondheim, Norway) and T. Notevarp (Laksevåg, Norway)	
The surface state and weldability of aluminium alloys	329
T. Rönnhult, U. Rilby and I. Olefjord (Göteborg, Sweden)	
Surface composition of copper alloys: influence of outdoor exposure	337
R. Holm, A. Kamf, R. Sundberg (Västerås, Sweden) and K. Martinsson (Linköping, Sweden)	
Surface composition of copper-based alloys studied with Auger electron spectroscopy: influence of manufacture and storage	345
P.-E. Nilsson-Jatko and S.-E. Karlsson (Linköping, Sweden)	
The reduction of sulphide and oxide compounds on high speed steel powder in a hydrogen gas stream	353
T. Johansson (Söderfors, Sweden) and L. Järnström (Uppsala, Sweden)	
Structure and hardness of titanium carbide coatings on hard metals	361
E. Breval and S. Vuorinen (Lyngby, Denmark)	
AUTHOR INDEX	367
SUBJECT INDEX	368

